REMARKS

The present Amendment is responsive to the Office Action dated February 22, 2005. In view of the foregoing amendments, and the comments which follow, favorable reconsideration is kindly requested.

In the Office Action, the Examiner has rejected claims 1-5, 7, 9 and 16-20 under §102 as being anticipated by the Ruffin patent, (USP 4,606,020). Claim 8 has been rejected as being obvious over this same patent.

In addition, claims 14 and 15 have been rejected under §102 as anticipated by DiGiovanni (USP 5,864,644) and claims 1 and 10-13 have been rejected under §103 as unpatentable over the combination of DiGiovanni and Ruffin. Finally, claim 6 is rejected as obvious over the combination of Ruffin with Elias (USP 5,751,873). These rejections are respectfully traversed.

The Ruffin patent relates to a wavelength division multiplexer for an optical slip ring assembly wherein bundled multimode fibers are fused to a single large core fiber. As noted by the Examiner, the large core fiber and the bundled multimode fibers have equivalent diameters, therefore rendering Ruffin facially similar to the currently claimed apparatus. As will be appreciated, however, the present invention does not seek to combine a plurality of signals within one single core, and accordingly does not have similar structure to Ruffin when considered in somewhat more detail. Particularly, as illustrated in Figure 1 of the present application, the fiber bundle of the invention includes a central fiber having a cladding and a core, and, subsequent to splicing, the core is optically coupled to the core of the spliced fiber,

whereas the remaining fibers in the bundle are optically coupled to the cladding. Stated somewhat differently, Ruffin describes a multiplexer for signal light, whereas the present invention describes a multiplexer for pump light.

The aforementioned structural differences are now better reflected in amended claim 1. Specifically, claim 1 as now recast specifies the optical coupling of the cores, as well as the coupling of others of the bundled fibers into the cladding of the connected large diameter fiber. It is believed that the construction as now more particularly claimed is clearly distinguishable from Ruffin.

The DiGiovanni patent is rather more relevant to the invention than Ruffin, in that it relates to a fiber bundle which is largely coupled into a cladding pumped apparatus. In DiGiovanni, a bundle is drawn into a taper and then fusion spliced to a cladding pumped fiber. The central fiber of the bundle may contain a single mode core which is coupled into the single mode core of the cladding pumped fiber. Despite these similarities with the invention, however, the device currently claimed in claim 1 is distinctly different in a number of ways.

First, it will be appreciated that the construction of DiGiovanni is rather difficult to fabricate, in that one must draw a taper from the entire fiber bundle for subsequent splicing to the smaller clad fiber. This difficulty is relieved by the invention wherein the taper is drawn on a single fiber whereas the splice is created at the bundle end. Accordingly, the device of the invention is more in keeping with standard connection and drawings techniques, and thus much more easily manufactured. These distinctions are believe to be captured in amended claim 1, and

therefore it is submitted that this claim stands patentably distinct from DiGiovanni, or, indeed, any combination of DiGiovannai and Ruffin.

A second distinction from DiGiovanni resides in the functionality of the constructed device. In particular, and as claimed in independent claim 14, the device of the invention serves to couple single mode light from the multimode core fiber to the cladding pumped fiber, and in this connection, the taper on the cladding pumped fiber can be used as a mode filter. In contrast, in DiGiovanni, the central fiber 31 and the spliced clad fiber 15 are collectively "single mode all the way". Multimode light in DiGiovanni is coupled only into the cladding. See, e.g., column 3, lines 54-60 and column 4, lines 40-45. Accordingly, claim 14 is also believed to be clearly distinguished from DiGiovanni, Ruffin, or their combination.

The remaining independent claim of the present application is claim 16, which is cast in method form. This claim has now been amended to specify that the fiber bundle is first fused at one location and then cleaved at the fused location to form fiber bundle ends for splicing. It will be appreciated that this technique is clearly different from DiGiovanni, wherein the bundle is tapered prior to any cleaving. Further, contrary to the Examiner's remarks, Ruffin does not disclose this technique either. Ruffin merely discloses the use of a fusion technique to fuse the fiber ends. It does not in fact disclose bundle fusing followed by cleaving of the fused location for splicing to the second fiber.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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